

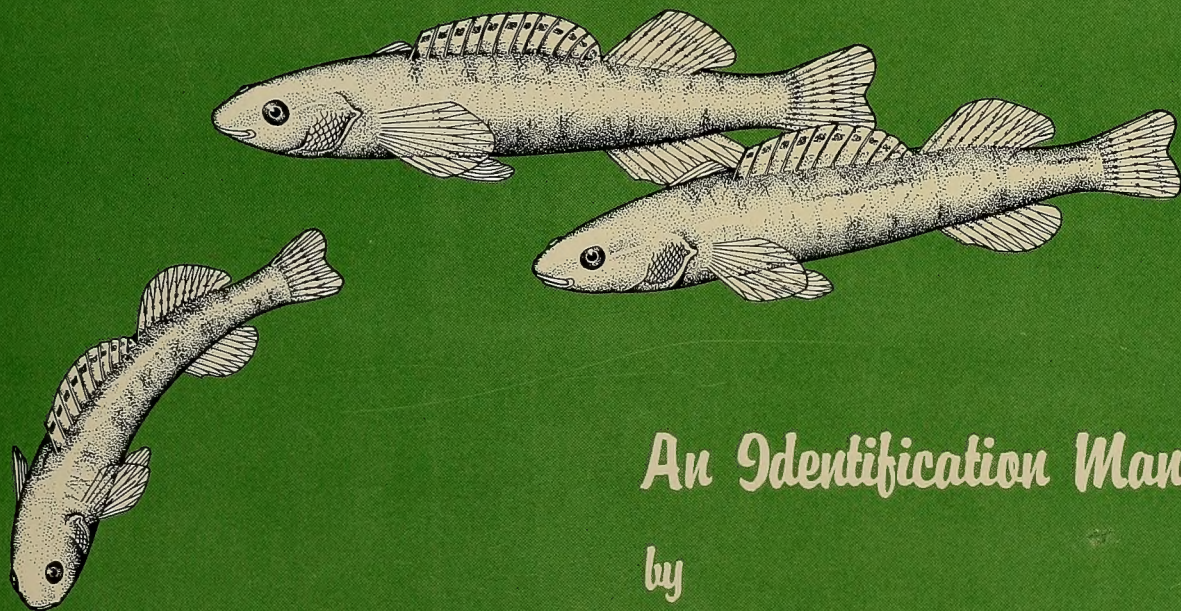
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Fishes

Illustrated Guide to Fishes in Kansas



An Identification Manual

by

Frank B. Cross - Joseph T. Collins - Jeanne Lenahan Robertson

The University of Kansas Museum of Natural History and State Biological Survey

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Illustrated Guide to Fishes in Kansas

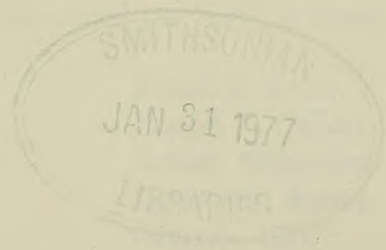
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Preface

In Kansas most people go fishing, or plan to do a little fishing sometime. One of the interesting things about fishing is that there is no certainty what will be caught. Nearly every angler (especially if he is a bait fisherman) sometime catches a fish he doesn't recognize, and must have a name for it. Thus, some kinds of fish get many different names; the largemouth bass is known in various places by more than 40 other names. Several common fish are known by at least three or four names in Kansas, and some of the same names are used for different kinds of fish. That situation is confusing. No one confuses Dwight Eisenhower with Harry Truman, or John Brown with Jesse James; it is no more proper to confuse bluegill with green sunfish, longear sunfish, and warmouth, or to call them variously bream, perch, pumpkinseed, and goggleeye. This booklet associates the more common kinds of fish in Kansas with their proper names, for the benefit of fishermen, young and old, who don't already know all these fish and their names. We've tried to make the association as easy as possible, and we hope the process adds to your enjoyment of catching fish. The booklet is a companion to "Fishes in Kansas" (Public Education Series, No. 3, Museum of Natural History, University of Kansas, Lawrence, Kansas 66045). The style is based on a system developed by Daryl Karns and used in the "Illustrated Guide to Amphibians and Reptiles in Kansas" (Public Education Series No. 2). For help in preparing this guide to fishes we are grateful to Philip Humphrey, Ray Ashton, Linda Trueb, and especially to Brad Williamson, several elementary teachers and Lawrence High School students who tested the "key" in the course of its development.

*Frank B. Cross
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Lawrence, Kansas
January, 1976*

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Fishes

WHAT IS A FISH?

Fishes are vertebrate animals that differ from mammals, birds, reptiles and most amphibians (frogs, toads and salamanders) by having gills throughout their adult life. With the exception of two kinds of salamanders found in Kansas, fishes are the only adult Kansas vertebrates that live beneath the water and breathe by removing oxygen from water or from the water surface. Very simply, if you catch a vertebrate animal on a hook and line in the water, it is most likely a fish.

Most fish have one or two dorsal (upper) fins on the back, a tail fin, and a single anal (lower) fin beneath the body near the tail fin. In addition, most fish have two sets of *paired* fins—the pectoral fins (like arms) behind the head, and the pelvic fins (like legs) behind or below the pectoral fins. Each fin on a fish can be spread or folded by means of thin rods, called *rays* if they bend easily, and called *spines* if they are stiff with tips sharp enough to prick your finger. Most Kansas fish have scales, but some do not, and others have scales so small they may not be no-

ticed. Some fish have limp “whiskers,” called *barbels*, around the mouth. These are used in finding food. Differences in the position and shape of fins, and presence or absence of barbels and scales, are important in identifying the fishes in this illustrated guide. Differences in color also help to identify fish, but fish can *change colors*, so color is not always a safe way to learn to recognize fish.

Only a few aquatic animals, both vertebrate and invertebrate, are confused with fish. These are:

1. Crayfish—these are the common “crawdads” nearly everyone has observed or caught. They are invertebrates and have jointed legs. Like fish, they are sometimes caught on hook and line.

2. Tadpoles—these are the larvae (pre-adult free-swimming life stage) of frogs and toads. Unlike most fish they have soft, round scaleless bodies. In addition, they have no pectoral or pelvic fins. They cannot be caught by hook and line.

3. Frogs—bullfrogs and leopard frogs live along the edges of lakes and streams and are

sometimes caught on hook and line, but they have arms and legs, and lack a tail. All fish have tail fins and do not have legs.

4. Salamanders—these are amphibians, like frogs and toads. The hellbender, mudpuppy (or waterdog) and larvae of tiger salamanders are found in water. They sometimes are caught on hook and line. These amphibians all have legs, so they are easily distinguished from fishes.

5. Aquatic turtles—these are reptiles that hunt their food in water. They are sometimes caught on hook and line, but can be distinguished from fish by their legs and shells.

6. Lamprey—this is a fish, but a very unusual one. You will not catch it on hook and line. Lampreys do not have pectoral or pelvic fins. They are long and snake-like, and lack jaws. Refer to the illustrated guide to see if you have found this rare Kansas fish.

A note of caution. Different but closely related fish sometimes breed and produce hybrids. This is particularly common among sunfishes. If you have difficulty in identifying a sunfish while using this illustrated guide, you may have a hy-

brid. If you catch a fish you cannot identify, take it to the nearest office of the Kansas Forestry, Fish and Game Commission or to the biology department of the nearest college or university. They will assist you in identifying your catch. If you seine or net small fish such as minnows and darters, you can identify the Kansas species by using the "Handbook of fishes of Kansas" (Cross, 1967) or "Fishes in Kansas" (Cross and Collins, 1975).





There are 123 kinds (species) of fish in Kansas, only 51 of which are considered in this guide. These 51 kinds are primarily those caught by fishermen, although some small fish such as madtoms and topminnows also are included. The 123 kinds of fishes found in Kansas are listed on page 13.

Many native fish, like tropical fish, are interesting aquarium pets. Most of the minnows, madtoms and topminnows readily accept the same dry fish food sold commercially for goldfish and tropical fish. Other native fish, especially the colorful darters and sunfish, may not thrive on dry fish food, but can be kept healthy on frozen

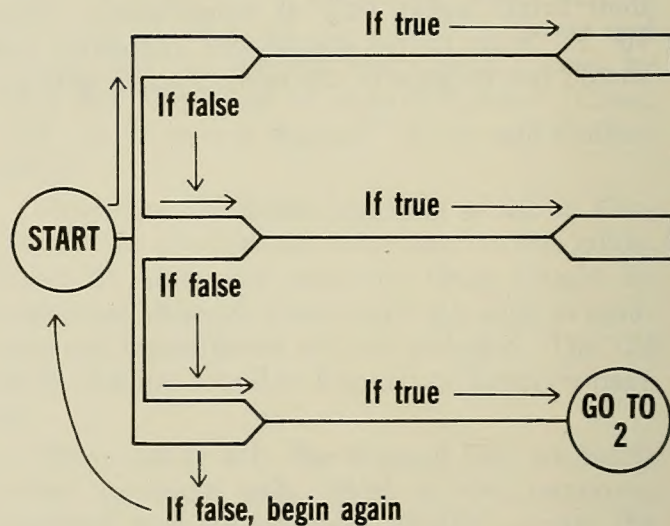
brine shrimp sold in pet stores. Native fish tolerate a wider range of temperature than do most tropical fish, but some of the most colorful Kansas fish (darters and certain minnows) will retain their bright colors only at temperatures below 70° F. Some native species are aggressive and should not be kept in the same aquaria with ex-

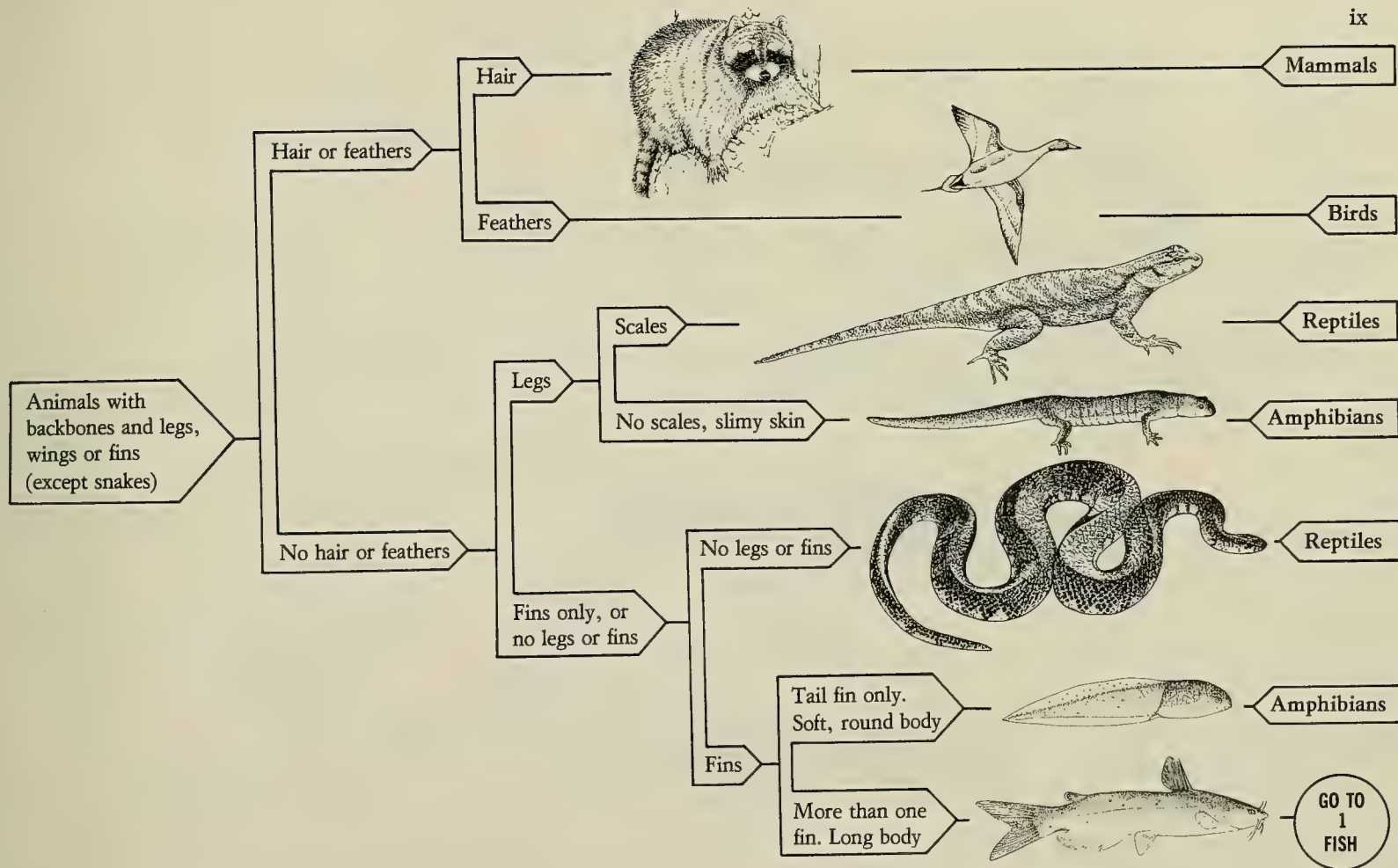
pensive tropicals. Basically the rules of aquarium management for tropical fishes apply to native species, including those of water conditioning, sanitation, and disease treatment. Several useful guides on these subjects are available in aquarium shops.

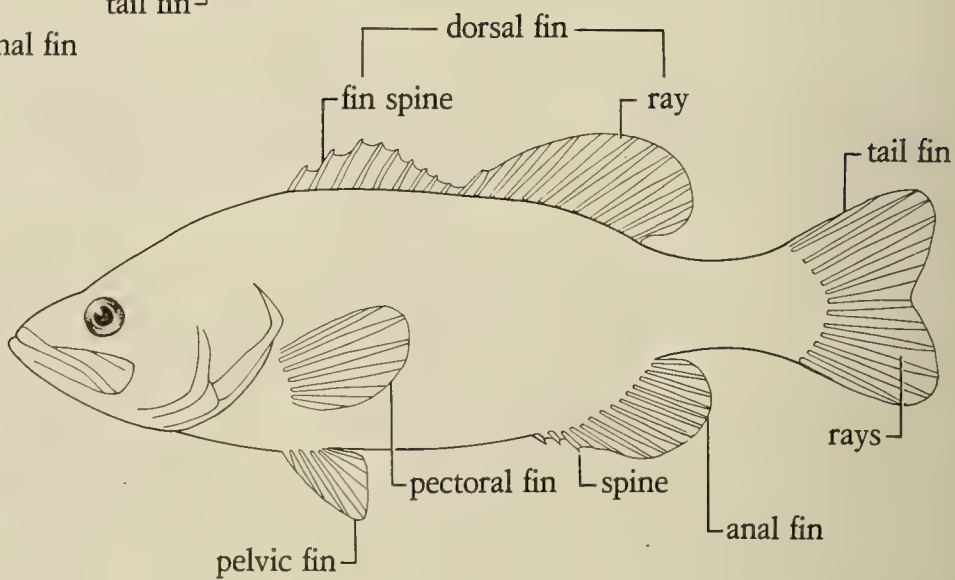
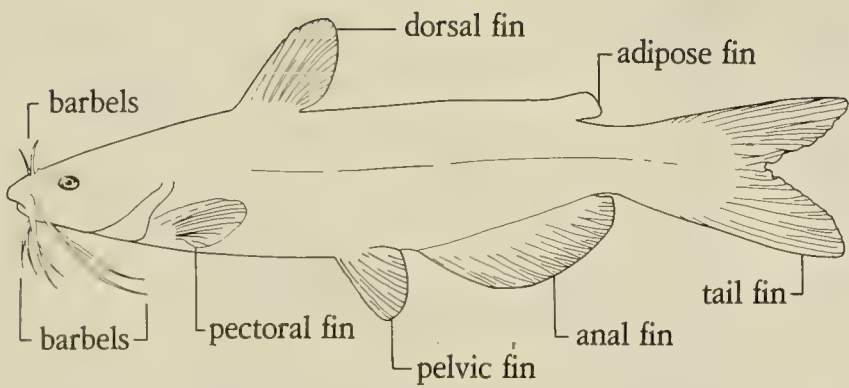
How to Use the Charts

Begin at left side of page  then go to the top of the page to the first fact  box. If this fact is *true* (it describes the animal), move across the page. If the fact *does not* describe your animal, *move down* the line to the next fact box until you come to the one that best describes the animal. If the statement is true, continue across the page. A box  pointing to the left is the end of the line and should identify the animal for you. If you reach a  circle, it will tell you which page to turn to. The drawings will show what the animal should look like, and on some an arrow points out the most important identification fact. If you think you have made a mistake, go back to the first key and begin again.

Sample Diagram





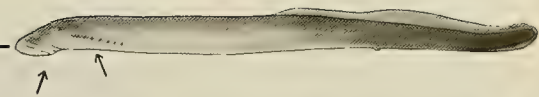


START
1

Scales not
visible

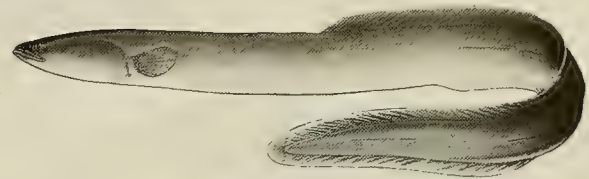
Snake-like

Round mouth.
7 pits behind
head



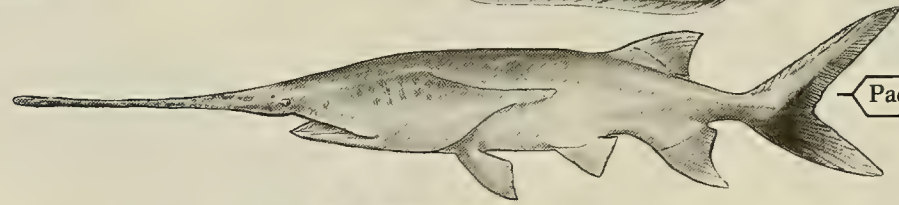
Chestnut
Lamprey

Mouth with
jaws. Small fin
behind head



American
Eel

Paddle-snout



Paddlefish

One barbel
on chin



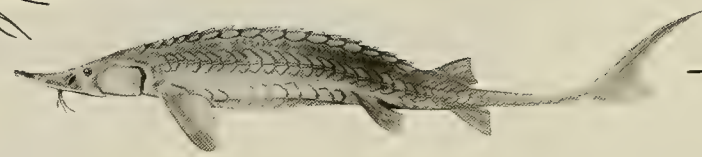
Burbot

Eight barbels
on head



GO TO
6

Thorny scales
in five rows

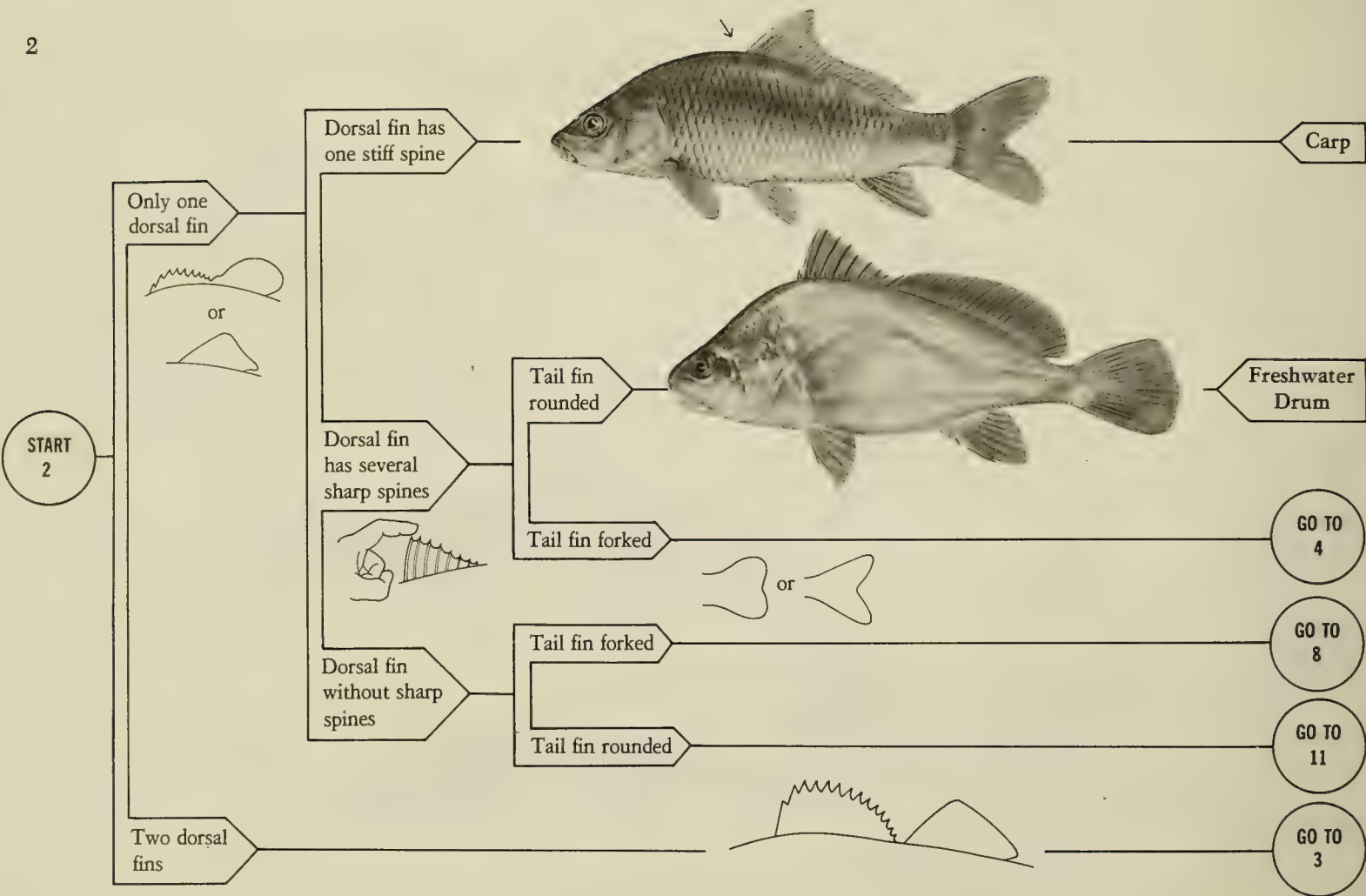


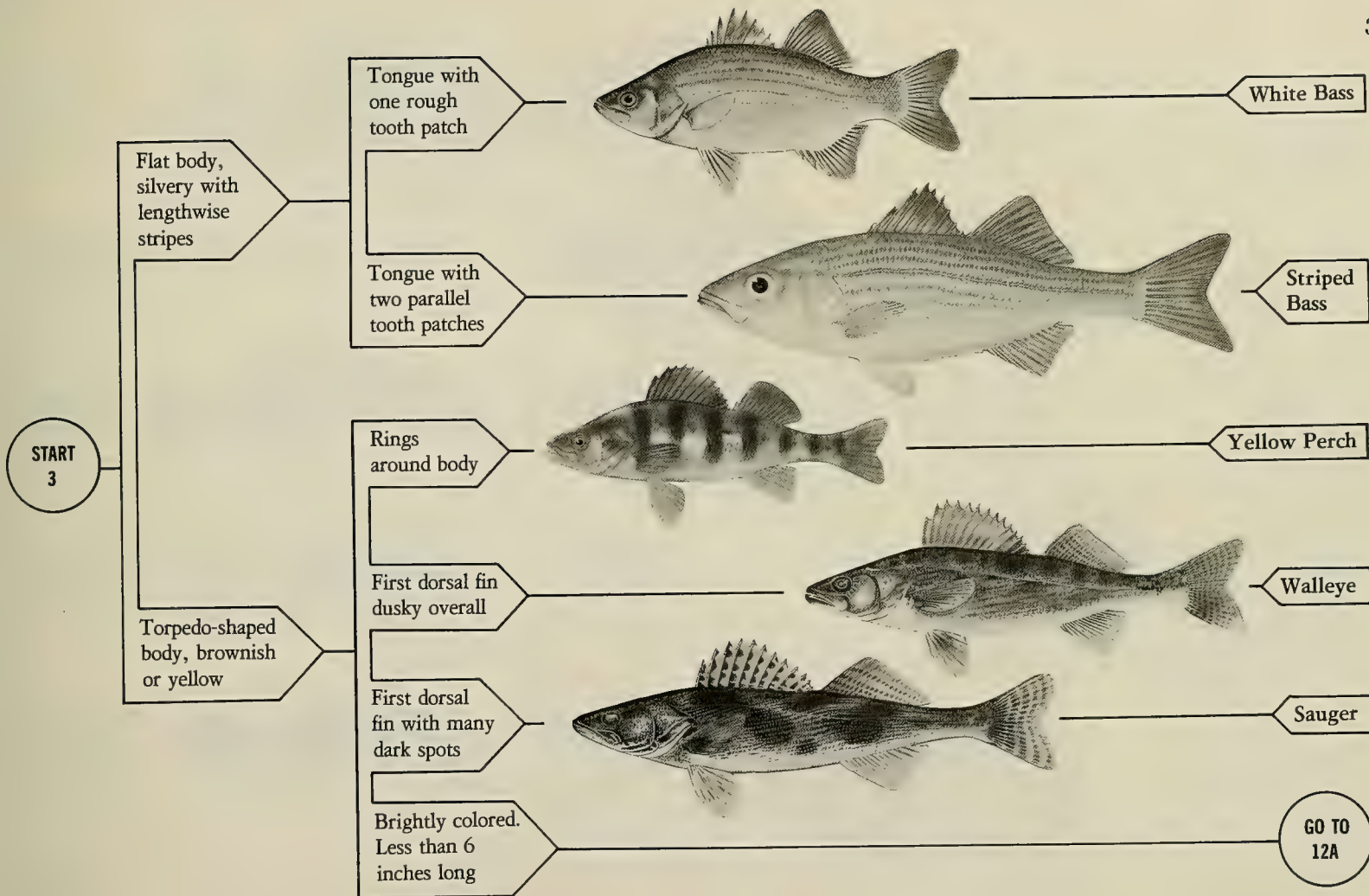
Shovelnose
Sturgeon

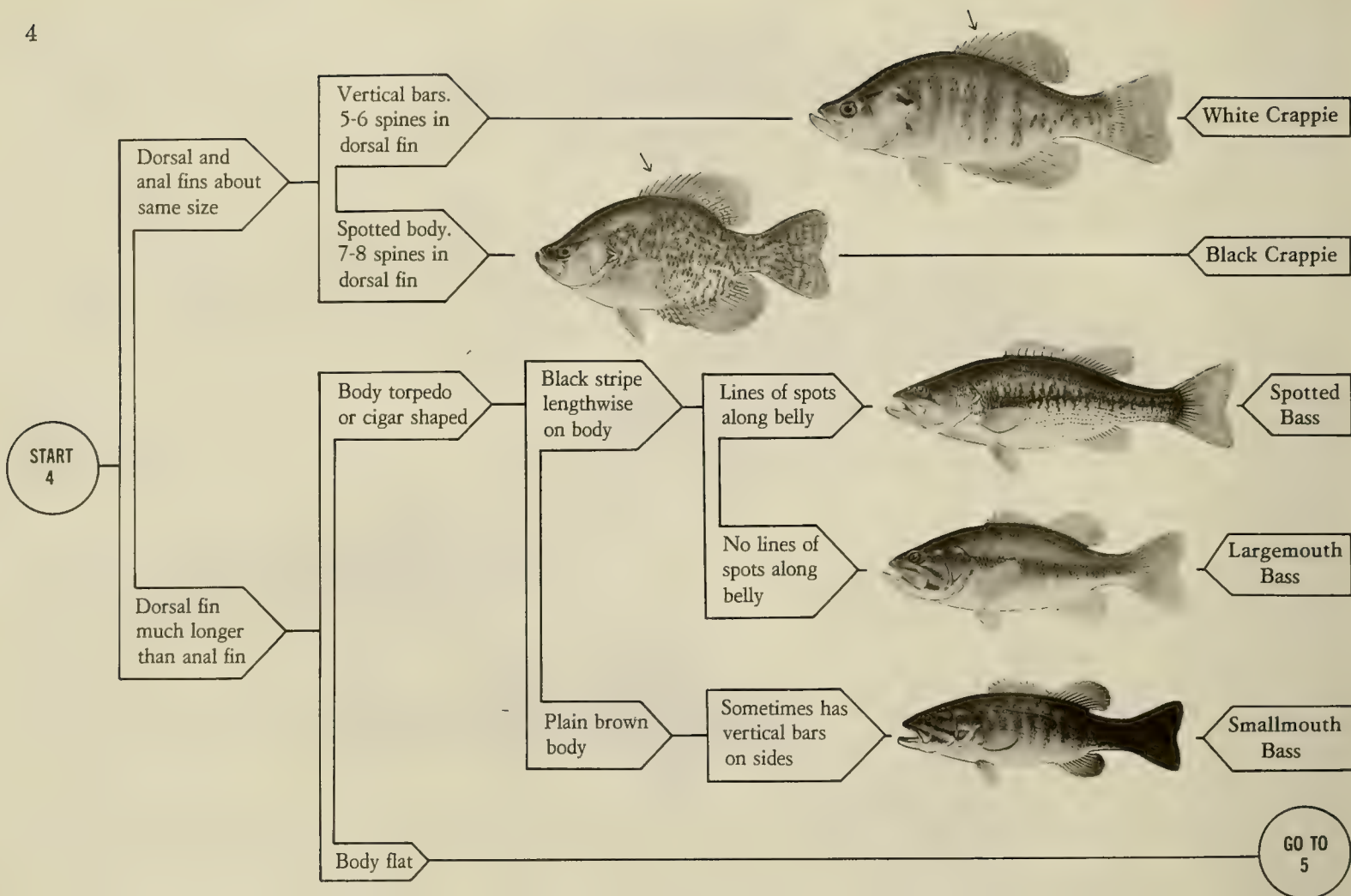
Scales easily
seen

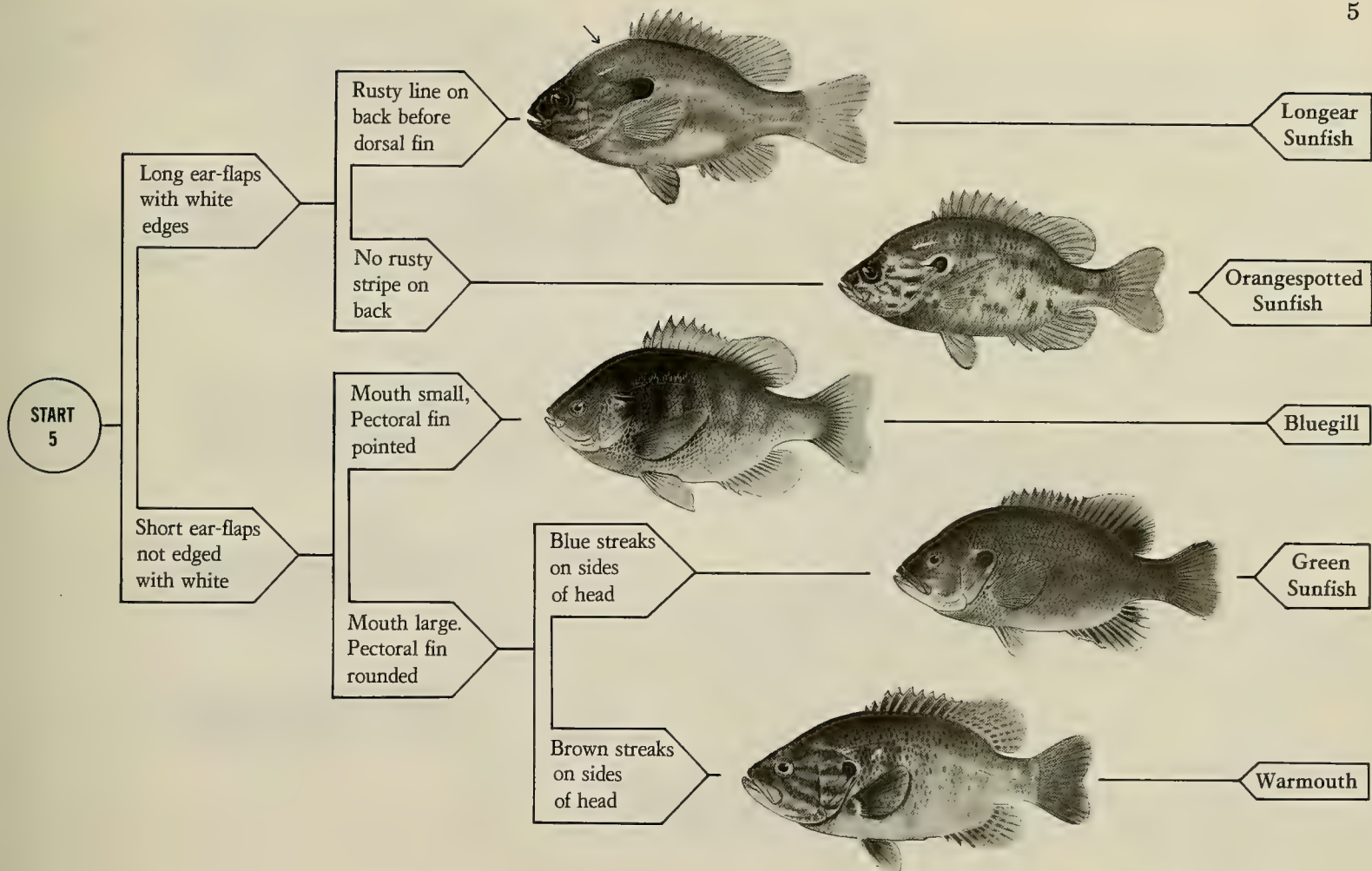
Flat scales cover body

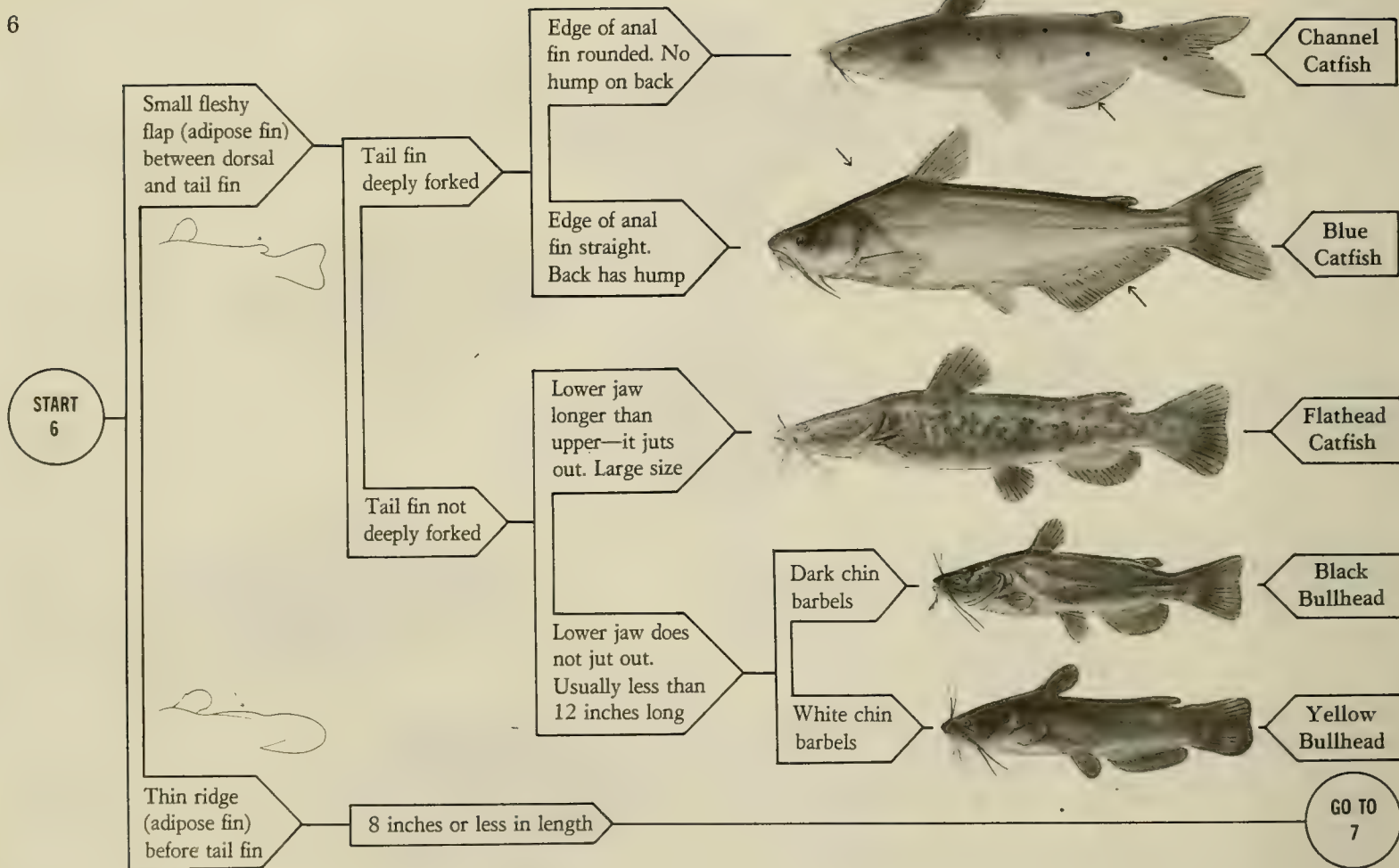
GO TO
2

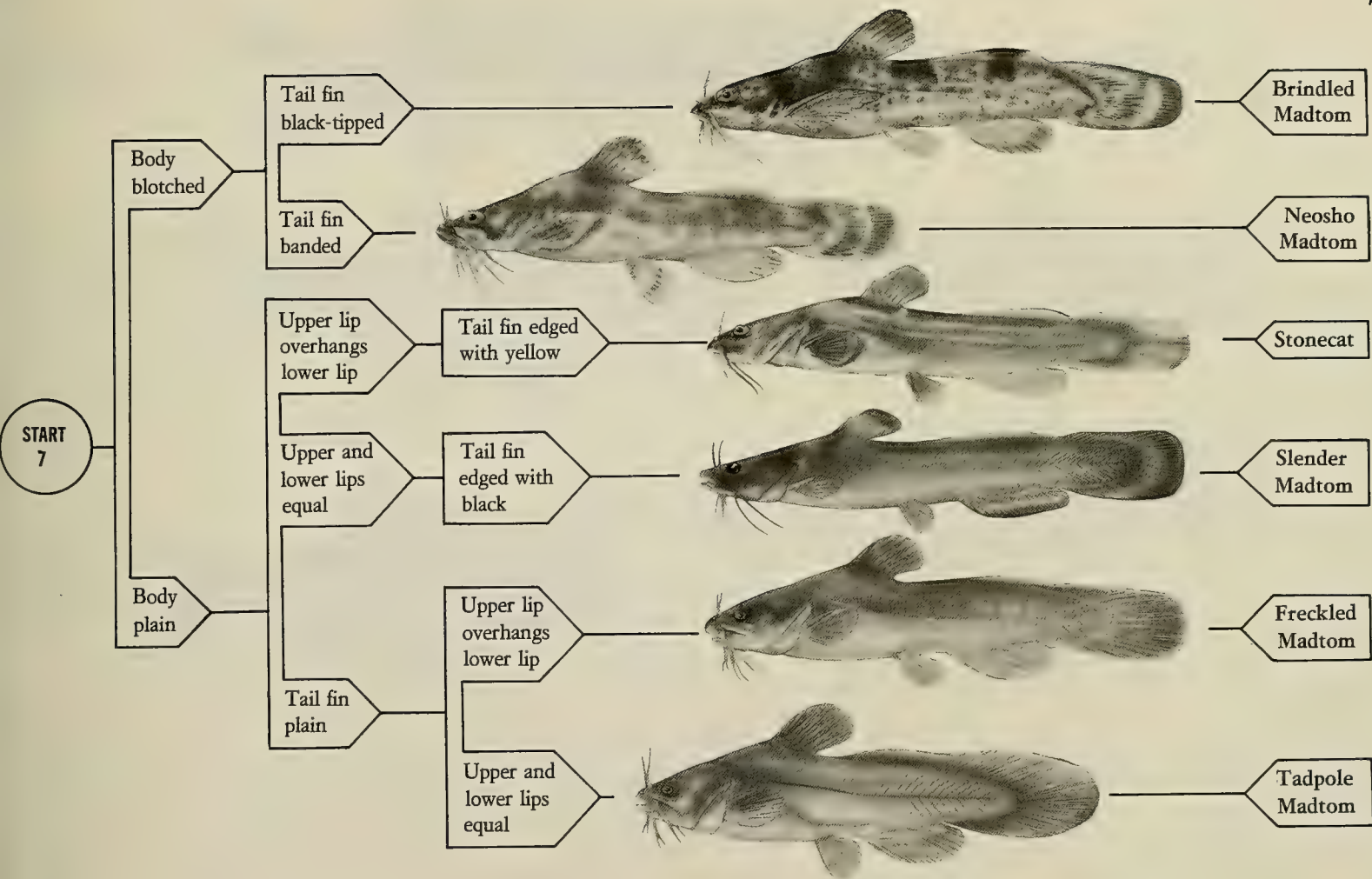




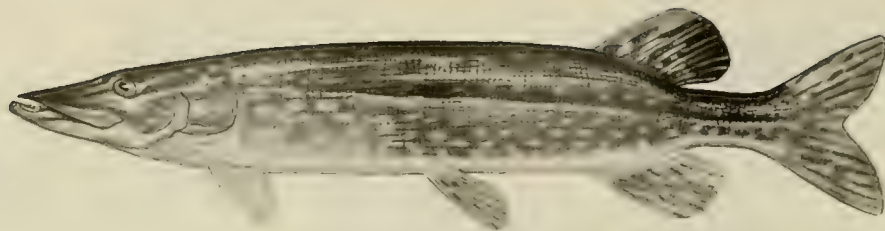








Duck-billed
snout with
sharp teeth



Northern
Pike

Teeth on jaws
and tongue

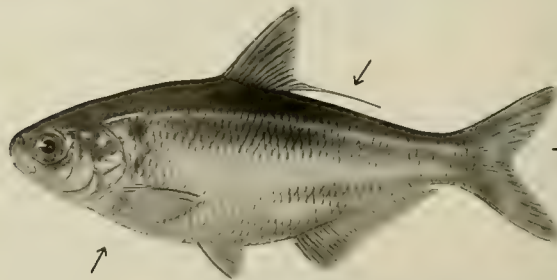


Goldeye

Snout short,
not duck-billed

No teeth on
jaws and tongue

Razor keel on
belly. Thin
filament on
dorsal fin



Gizzard
Shad

Belly not sharply
keeled. No filament
on dorsal fin

GO TO
9

START
8

START
9Dorsal fin
long and
sickle-shapedBody slender.
Eye on back
half of head

Blue Sucker

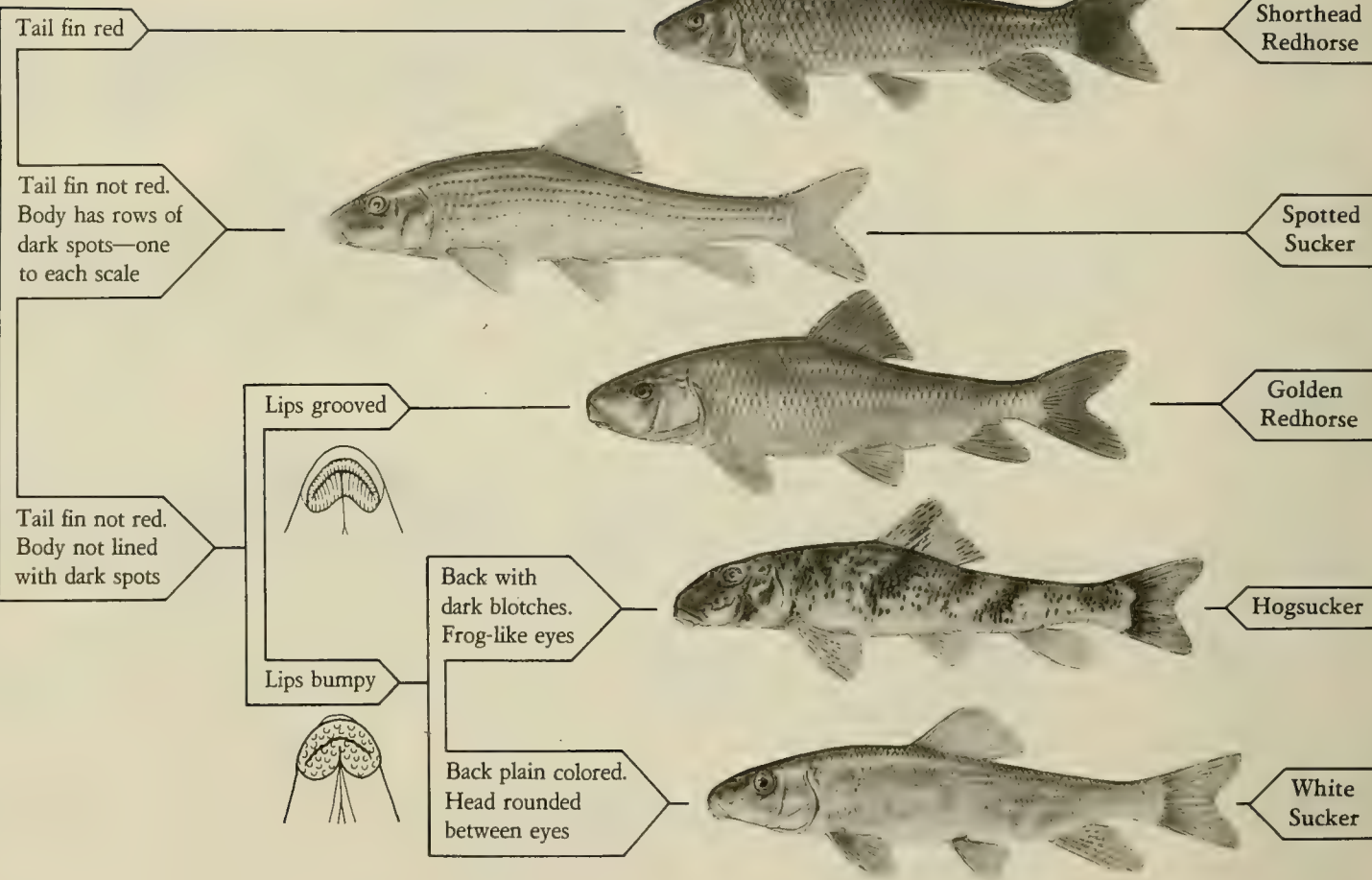
Body thick, sides
flattened. Eye on
front half of headLower fins dark.
Gill cover rounded
along lower edge

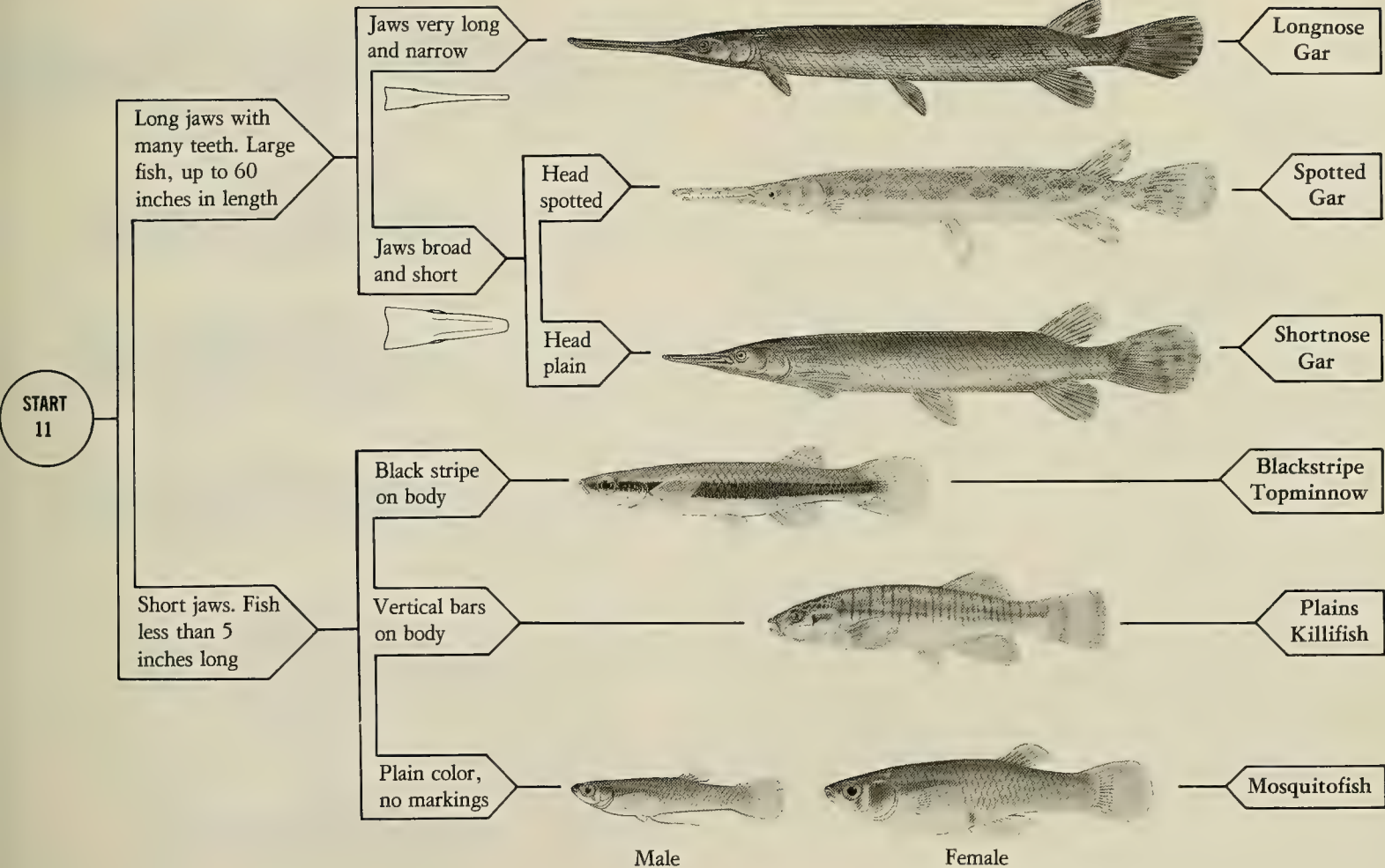
Buffalo

Lower fins pale.
Gill cover straight
along lower edge

Carpsucker

Dorsal fin
short, rounded
or triangular10 or more rays
in dorsal fin.
Large fish with
thick, fleshy lipsGO TO
109 or fewer rays in
dorsal fin. Lips thin
and smooth. Less
than 6 inches longGO TO
12B





12A

Darters

You have a darter. There are 17 different kinds of darters in Kansas. To the right are some examples of darters showing their variable shapes and patterns

Logperch



Johnny Darter

Orangethroat
Darter

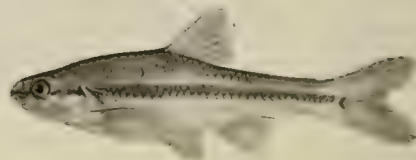
Creek Chub



Red Shiner



Topeka Shiner



12B

Minnows

You have a minnow. There are 39 different kinds of minnows native to Kansas. To the right are some examples of minnows showing their variable shapes and patterns

A CHECKLIST OF FISHES IN KANSAS

This is a list of the common names of the 123 kinds of fishes that occur in Kansas. The Illustrated Guide will identify 51 of the fishes found in Kansas; the remaining 72 kinds are not included in the Illustrated Guide, but are listed

below followed by an asterisk (*). These 72 kinds are omitted from the Illustrated Guide because they are too difficult to identify in a flow-chart format, or because they are rare and are found only in very limited areas in Kansas.

LAMPREYS

— Chestnut Lamprey

STURGEONS

— Shovelnose Sturgeon
— Pallid Sturgeon (*)

PADDLEFISHES

— Paddlefish

GARS

— Shortnose Gar
— Spotted Gar
— Longnose Gar

BOWFIN

— Bowfin (*)

FRESHWATER EELS

— American Eel

HERRINGS

— Skipjack Herring (*)
— Gizzard Shad

MOONEYES

— Goldeye

TROUTS

— Rainbow Trout (*)

PIKES

— Northern Pike

MINNOWS

— Carp
— Goldfish (*)
— Golden Shiner (*)
— Creek Chub (*)
— Southern Redbelly Dace (*)
— Hornyhead Chub (*)
— Redspot Chub (*)
— Flathead Chub (*)
— Gravel Chub (*)
— Silver Chub (*)
— Sicklefins Chub (*)
— Speckled Chub (*)

— Sturgeon Chub (*)

— Suckermouth

Minnow (*)

— Emerald Shiner (*)

— Rosyface Shiner (*)

— Silverband Shiner (*)

— Redfin Shiner (*)

— Duskystripe Shiner (*)

— Common Shiner (*)

— Striped Shiner (*)

— River Shiner (*)

— Bigeye Shiner (*)

— Bluntnose Shiner (*)

— Spotfin Shiner (*)

— Red Shiner (*)

— Topeka Shiner (*)

— Bigmouth Shiner (*)

— Sand Shiner (*)

— Arkansas River

Shiner (*)

— Mimic Shiner (*)

— Ghost Shiner (*)

— Ozark Minnow (*)

— Brassy Minnow (*)

— Plains Minnow (*)

— Western Silvery

Minnow (*)

— Fathead Minnow (*)

— Bullhead Minnow (*)

— Slim Minnow (*)

— Bluntnose Minnow (*)

— Stoneroller (*)

SUCKERS

— Blue Sucker

— Bigmouth Buffalo (*)

— Black Buffalo

— Smallmouth Buffalo (*)

— Quillback (*)

— River Carpsucker

— Highfin Carpsucker (*)

— Spotted Sucker

— Black Redhorse (*)

— Golden Redhorse

- River Redhorse (°)
- Shorthead Redhorse
- Hogsucker
- White Sucker

CATFISHES

- Black Bullhead
- Yellow Bullhead
- Channel Catfish
- Blue Catfish
- Flathead Catfish
- Tadpole Madtom
- Freckled Madtom
- Slender Madtom
- Stonecat
- Neosho Madtom
- Brindled Madtom

CODFISHES

- Burbot

TOPMINNONS, KILLIFISH
and MOSQUITOFISH

- Northern Studfish (°)
- Plains Topminnow (°)
- Blackstripe Topminnow
- Plains Killifish
- Mosquitofish

SILVERSIDES

- Brook Silverside (°)

SCULPINS

- Banded Sculpin (°)

TEMPERATE BASSES

- Striped Bass
- White Bass

SUNFISHES

- Smallmouth Bass

- Spotted Bass
- Largemouth Bass
- Warmouth
- Green Sunfish
- Redear (°)
- Bluegill
- Orangespotted Sunfish
- Longear Sunfish
- Rock Bass (°)
- White Crappie
- Black Crappie

PERCHES

- Walleye
- Sauger
- Yellow Perch
- Blackside Darter (°)
- Slenderhead Darter (°)

- Logperch (°)
- River Darter (°)
- Channel Darter (°)
- Johnny Darter (°)
- Bluntnose Darter (°)
- Speckled Darter (°)
- Banded Darter (°)
- Greenside Darter (°)
- Redfin Darter (°)
- Stippled Darter (°)
- Arkansas Darter (°)
- Orangethroat
Darter (°)
- Fantail Darter (°)
- Slough Darter (°)
- Least Darter (°)

DRUMS

- Freshwater Drum

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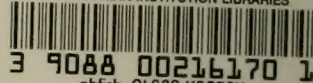
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Paperbound. August 23, 1974.
- No. 2. *Illustrated Guide to Amphibians and Reptiles in Kansas*.
By Daryl Kams, Ray E. Ashton, Jr., and Tom Swearingen.
Pp. 1-18, 8 figures in text. Paperbound. December 12, 1974.
- No. 3 *Fishes in Kansas*. By Frank B. Cross and Joseph T. Collins.
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Paperbound. July 3, 1975.